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EXAMINER

ALUNKAL, THOMAS D

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| ART UNIT | PAPER NUMBER |
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2627

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05/30/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/786,617

Applicant(s)

YAMAZAKI, MITSUO

Examiner

Thomas D. Alunkal

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2004 and 25 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,6-7, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 6,204,660) and in view of Niwa (US 6,538,692).

Regarding claim 1, Lee discloses an information recording apparatus (Figure 1) comprising: a detection unit configured to detect a manufacturing error unique to an information storage medium (Figure 1, Elements 18 and 22, *read/write channel circuit and micro-controller, respectively*), a transmission unit configured to transmit the manufacturing error detected by the detection unit to an external apparatus (Figure 1, Elements 36, *disk data controller and host computer*), a reception unit configured to receive data indicating a recording capacity of the information storage medium which is calculated by the external apparatus on the basis of the manufacturing error transmitted from the transmission unit (Figure 1, Element 22, *micro-controller*, Figure 2, and Column 4, line 29- Column 5, line 4), and a recording control unit (Figure 1, Element 36, *disk data controller*). Lee does not disclose wherein the recording control unit is configured to determine whether first recording target data is recordable based on the data received by the reception unit, to request the first recording target data of the external

apparatus based on a result of the determination, to record, on the information storage medium, first recording data generated from the first recording target data, to compare an amount of the first recording data with the recording capacity, to request second recording target data of the external apparatus when lack of recording capacity is not estimated from a result of the comparison, to record, on the information storage medium, second recording, data generated from the second recording target data, and to limit a request for the second recording target data when the lack of recording capacity is estimated from the result of the comparison. In the same field of endeavor, Niwa discloses a data storage control method in which after first data is recorded to an optical disc, a judgment is made to whether the remaining capacity of the disc is large enough to record second data thereon. Data is recorded to the optical disc if the remaining capacity of the disc is larger than the amount of data to be recorded. (Column 2, lines 6-22 and 52-65).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide the data storage control method of Niwa to the varying disc capacity method of Lee, motivation being to prevent a situation in which recording is interrupted because the optical disc becomes full before all intended data is recorded (Column 2, lines 6-12 of Niwa).

Regarding claim 6, Lee discloses wherein the detection unit detects a manufacturing error in a predetermined area on the information storage medium on the basis of reflected light from the information storage medium and determines if data can be recorded on this area (Figure 2, Elements 68 and 70), the transmission unit transmits

the manufacturing error in the predetermined area detected by the detection unit to the external apparatus (Figure 1, Elements 36, *disk data controller and host computer*), and the reception unit receives the data indicated the recording capacity of the information storage medium which is calculated by the external apparatus on the basis of the manufacturing error in the predetermined area (Figure 1, Element 22, *micro-controller*, Figure 2, and Column 4, line 29- Column 5, line 4).

Regarding claim 7 and 12, these claims contain limitations similar to those in claims 1 and 6, respectively and are rejected over the same grounds. Namely, "a determination unit" performs the functions of "a transmission unit" and "a reception unit" as cited in claims 1 and 6.

Claims 2-5 and 8-11 rejected under 35 U.S.C. 103(a) as being unpatentable over Lee and Niwa as applied to claims 1,6,7, and 12 above, and further in view of Ohtake et al. (hereafter Ohtake) (US 4,866,688).

Regarding claim 2, Lee discloses wherein the defects detected are general disk defects due to manufacturing errors and damage during handling (Column 1, lines 43-54). These defects are detected via the detection unit Figure 1, Elements 18 and 22, *read/write channel circuit and micro-controller, respectively*). Lee and Niwa fail to disclose that the defect detected is a defect due to tilt amount. It is well known in the art that tilt is considered a defect which results in a loss of storage efficiency. This is further evidenced by Ohtake, who discloses detecting a disc tilt amount as a defect (Column 6, lines 29-32).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the well known detection of a disc tilt amount as a defect to the varying disc capacity method of Lee, motivation being to ensure efficient and reliable recording while reducing the loss of data.

Regarding claim 3, Lee discloses wherein the defects detected are general disk defects due to manufacturing errors and damage during handling (Column 1, lines 43-54). These defects are detected via the detection unit Figure 1, Elements 18 and 22, *read/write channel circuit and micro-controller, respectively*). Lee and Niwa fail to disclose that the defect detected is a defect due to error rate of prepits. It is well known in the art that the error rate of prepits is considered a defect which results in a loss of storage efficiency. This is further evidenced by Ohtake, who discloses detecting an error rate of prepits as a defect (Column 8, lines 27-36).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the well known detection of an error rate of prepits as a defect into the varying disc capacity method of Lee, motivation being to ensure efficient and reliable recording while reducing the loss of data.

Regarding claim 4, Lee discloses wherein the defects detected are general disk defects due to manufacturing errors and damage during handling (Column 1, lines 43-54). These defects are detected via the detection unit Figure 1, Elements 18 and 22, *read/write channel circuit and micro-controller, respectively*). Lee and Niwa fail to disclose that the defect detected is a defect due to disc eccentricity. It is well known in the art that eccentricity is considered a defect which results in a loss of storage

efficiency. This is further evidenced by Ohtake, who discloses detecting a disc tilt amount as a defect (Column 6, lines 29-33).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the well known detection of a disc eccentricity amount as a defect into the varying disc capacity method of Lee, motivation being to ensure efficient and reliable recording while reducing the loss of data.

Regarding claim 5, Lee discloses wherein the defects detected are general disk defects due to manufacturing errors and damage during handling (Column 1, lines 43-54). These defects are detected via the detection unit Figure 1, Elements 18 and 22, *read/write channel circuit and micro-controller, respectively*). Lee and Niwa fail to disclose that the defect detected is a defect due to an error rate of wobble signals. It is well known in the art that wobble is considered a defect which results in a loss of storage efficiency. This is further evidenced by Ohtake, who discloses detecting a read error rate of wobble signals as a defect (Column 6, lines 44-57).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the well known detection of a read error rate of wobble signals as a defect into the varying disc capacity method of Lee, motivation being to ensure efficient and reliable recording while reducing the loss of data.

Regarding claims 8-11, these claims contain limitations similar to those in claims 2-5 and are rejected over the same grounds.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee and Niwa as applied to claims 1,6,7, and 12 above, and further in view of Official Notice.

Regarding claim 13, Lee and Niwa fail to disclose wherein the recording control unit generates the first recording data by **adding a first error correction code to the first recording target data and modulation the first recording target data with the first error correction code**, and measures the amount of the first recording data, and the recording control unit generates the second recording data by **adding a second error correction code to the second recording target data and modulation the second recording target data with the second error correction code**, and measures the amount of the second recording data. However, the Examiner is taking Official Notice that it was conventional at the time of the applicant's invention to provide recordable data with error correction codes.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide error correction codes to the first and second recordable data of Lee, motivation being to maintain data integrity, as it is being recorded to and read from an optical disc.

Regarding claim 14, this claim contains similar limitations to claim 13, and is rejected over the same grounds.

Response to Arguments

Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

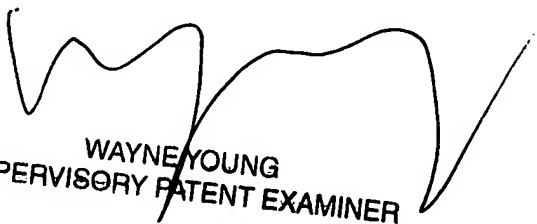
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas D. Alunkal whose telephone number is (571)270-1127. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571)272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas Alunkal/
Examiner, Art Unit 2627


WAYNE YOUNG
SUPERVISORY PATENT EXAMINER